

## CLAIMS

WHAT IS CLAIMED IS:

1. An optical circuit comprising:

a substrate having a plurality of optical elements formed;  
5 a first optical waveguide formed on said substrate for guiding light to be outputted from said optical elements; and  
a second optical waveguide formed on said substrate for guiding light which is emitted or leaking from said first optical waveguide.

10 2. The optical circuit according to Claim 1, wherein at least one of said plurality of optical elements is a Mach-Zehnder type optical element.

3. The optical circuit according to Claim 1, wherein at least one of said plurality of optical elements is a Mach-  
15 Zehnder interferometer type optical modulator.

4. The optical circuit according to Claim 1, wherein at least two of said plurality of optical elements are connected in tandem.

5. The optical circuit according to Claim 1, wherein said  
20 substrate is made of a ferroelectric material.

6. The optical circuit according to Claim 1, wherein:  
one of said plurality of optical elements is a first Mach-Zehnder type optical modulating part for applying a clock signal voltage at a predetermined cycle to an electrode for  
25 varying a refractive index of said first optical waveguide; and

one of said plurality of optical elements is a second Mach-Zehnder type optical modulating part connected in tandem with said first Mach-Zehnder type optical modulating part for  
30 applying a signal voltage modulated according to information to be transmitted, to said electrode.

7. The optical circuit according to Claim 1, wherein said substrate is made of lithium niobate ( $\text{LiNbO}_3$ ).

8. The optical circuit according to Claim 7, wherein light  
35 outputted from said plurality of optical elements is inputted into said first Mach-Zehnder optical modulating part via a variable optical attenuating part capable of attenuating light

intensity and varying an amount of attenuation.

0.7  
0.3  
0.1  
0.7  
0.4  
0.1  
0.1  
0.1  
0.3  
0.4  
0.1  
0.1  
0.1  
0.1  
0.1